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# THE ST. LAWRENCE AREA TRANSPORTATION

PRELIMINARY REPORT

REVISED



Municipal Planning Consultants CO. LTD.



ONTARIO DEPARTMENT OF PLANNING AND DEVELOPMENT  
COMMUNITY PLANNING BRANCH



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President, Municipal Planning  
Consultants Co. Ltd.*

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St. Lawrence Area Study

TRANSPORTATION

Preliminary Report



7  
ONTARIO DEPARTMENT OF PLANNING AND DEVELOPMENT

Minister  
The Hon. W.M. Nickle, Q.C.

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September, 1959  
Revised December, 1959

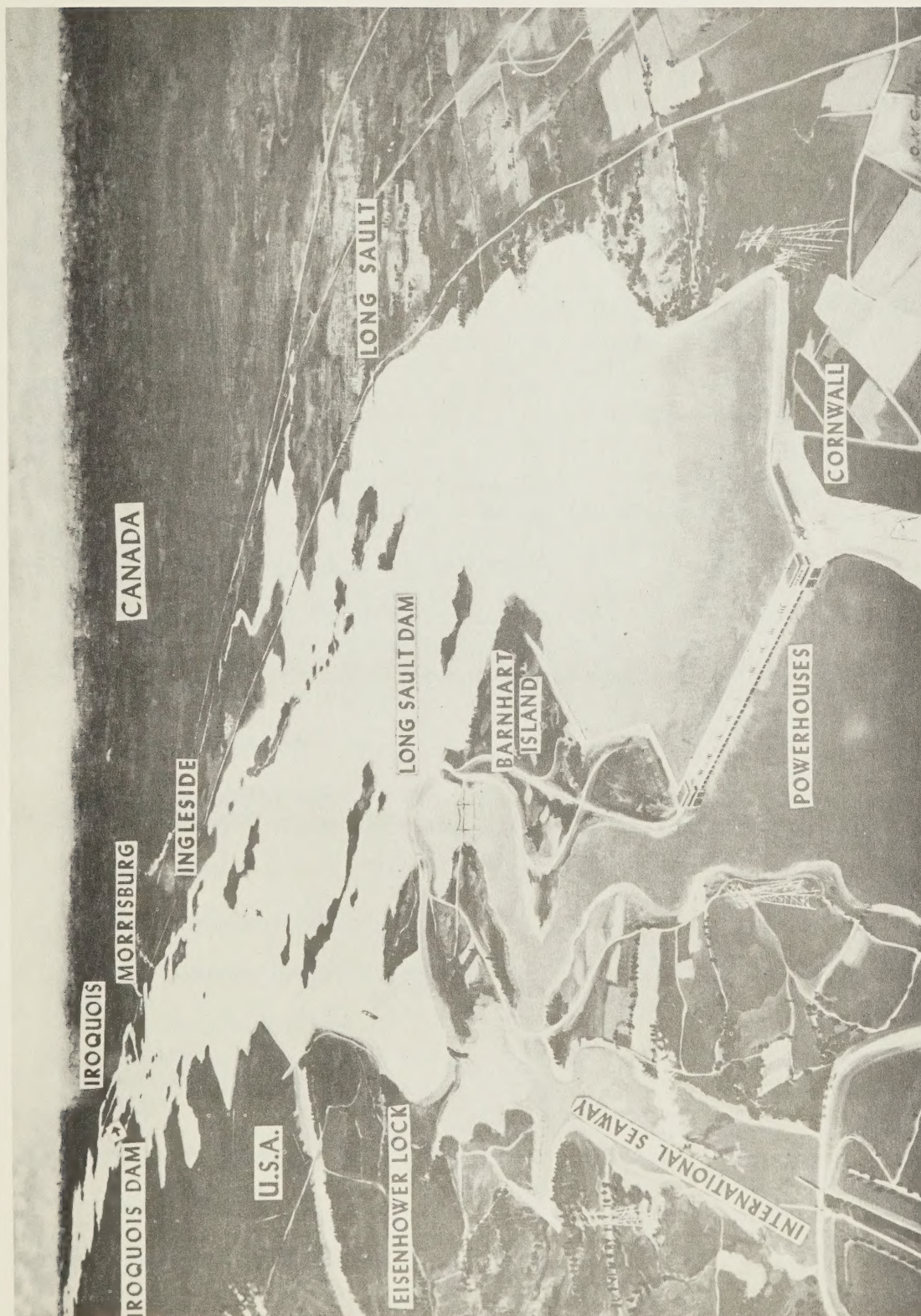




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Courtesy—Ontario Hydro

Photo 1. Schematic view of the St. Lawrence Power Project, looking upstream at the 100 square mile lake between Cornwall and Iroquois created by recent flooding.





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## INTRODUCTION

As part of its regional study programme, the Community Planning Branch, Ontario Department of Planning and Development has been studying the area contained within the eight townships on the Ontario side of the St. Lawrence River between the Town of Prescott and the Ontario-Quebec boundary. Regional reports for the Area have been prepared on education, recreation, transportation and three urban areas; others dealing with population and physical characteristics are either in preparation for publication or are on file (in draft form) in the Branch offices. Each of these reports must not be considered as final in themselves but rather as chapters in the consideration of the Area as a whole. A summary planning report that is now in preparation will incorporate the more pertinent findings of each of these studies under one cover.

This report deals with the existing and proposed transportation services of the St. Lawrence Area, comprising the Townships of Augusta, Edwardsburg, Matilda, Williamsburg, Osnabruck, Cornwall, Charlottenburgh and Lancaster in Eastern Ontario. Its two principal objectives are: 1) to determine the ability of existing and planned transportation facilities - including water, rail, highway and air transport to serve local and through traffic movements, and 2) to evaluate in a general manner the relationships of these facilities to land uses in the Area.

Generally speaking, the existing facilities and planned improvements in the Area appear quite capable of serving anticipated traffic needs for many years. Water transportation services for through cargoes have been appreciably improved and some harbour dredging has taken place to expedite domestic water trade development as part of the St. Lawrence Seaway Project. The Ontario-New York Power Generation Project has resulted in the relocation of old King's Highway

Number 2 as a high-standard route with partial control of access along its right-of-way. This new highway by-passes all of the river front communities between, but not including, Cardinal and Cornwall. The Canadian National Railways main line has also been relocated in this section as part of the power generation scheme, by-passing the communities that it formerly traversed. Two new international bridges are in progress of construction across the St. Lawrence River at Cornwall and Johnstown where formerly only one existed, at Cornwall - the old Roosevelt Bridge - which served both motor vehicle and railway traffic. Possibly the most significant improvement in transportation services to the Area is the new freeway, King's Highway Number 401, in the process of stage construction through the Area. The impact that these transportation improvements will have on the Area's future land use and economy is, of course, much more difficult to determine.

Part One of the report contains the summary and conclusions of the study. The general conclusions are based, where possible, upon the factual material collected during the study; a period of several months. Certain judgments were made to the extent deemed necessary to realize the main objective of the study: to forecast land use advantages and problems that may result from recent and planned transportation improvements in the Area.

Part Two contains the more important survey material and its analysis in regard to existing and proposed transportation facilities in the Area. This material was largely collected and processed during the year 1958, although revisions have been made where warranted to mid-1959.



We wish to acknowledge with thanks the substantial assistance given us in the form of source material and comments by numerous government and private agencies. These included the:

- Ontario Department of Highways
- Ontario Department of Economics
- Hydro-Electric Power Commission of Ontario
- Canadian National Railways
- Canadian Pacific Railways
- Federal Department of Public Works
- Federal Department of Transport
- Board of Transport Commissioners for Canada
- Air Transport Board
- St. Lawrence Seaway Authority
- County Engineer of Stormont, Dundas and Glengarry
- Ogdensburg Bridge Authority
- Colonial Coach Lines
- Automotive Transport Association of Ontario
- New York Central System
- Shipping Federation of Canada
- Canada Steamship Lines Limited
- Ogdensburg Chamber of Commerce

Toronto, Ontario  
December, 1959.

Area Studies Group,  
Community Planning Branch.





P A R T   O N E

S   U   M   M   A   R   Y

A   N   D

C   O   N   C   L   U   S   I   O   N   S





## Coasting Trade

The Ontario section of the St. Lawrence Seaway will likely continue to be a corridor for through traffic en route between the Great Lakes and Montreal or beyond. This observation is substantiated by the water trade volumes at such ports as Montreal, Toronto and Hamilton which handle several million tons of cargo per annum in comparison to tonnages of a few hundred thousand or less at wharves in the St. Lawrence Area. The limited amount of coasting trade between Brockville and Cornwall is at present largely handled by private wharves of industries located along the river front. The use of the terminal warehouses at Johnstown, which store large quantities of grain for trans-shipment downstream, and the recent use of other Department of Transport wharves in the International Rapids Section for unloading construction materials are notable exceptions. The Lower Lakes Terminal warehouses will retain their function of grain storage since local industries continue to need them. Also grain storage elevators are currently used to capacity throughout the St. Lawrence-Great Lakes System.

Established port cities such as Montreal and Toronto are capable of accommodating the large cargoes of "lakers" and ocean vessels more economically than ports located in the St. Lawrence Area where no large markets for bulk or packaged cargo exist. Also the navigational improvements of the St. Lawrence Seaway Project have reduced the number of locks in the St. Lawrence Canals System from 21 to 7 and increased the minimum depth of the locks to 30 feet and main channel to 27 feet from 14. These improvements should help to bring about an increase in the through traffic in the St. Lawrence River and possibly reduce the trans-shipment function of the Area.



*Courtesy—Ontario Department of Travel and Publicity*

Photo 2. A tanker passing through the new Iroquois Lock.  
Where formerly 21 locks existed in the International  
Rapids Section, only 7 locks now are required.



The hinterland coasting trade of the Area is limited. Although in relatively close proximity to Ottawa in regard to trans-shipment of goods by water, the Area has not in the past received any appreciable amount of trade of this nature to or from the Capital or other parts of the Ottawa Valley. This is demonstrated by the recent abandonment of the Ottawa and New York Railroad, a direct connection between Ottawa and Cornwall, and also by the small amount of trucking traffic between Ottawa and the St. Lawrence River. Ottawa, an administrative rather than an industrial city, does not place as large demands on imports and exports of heavy goods as its population size would indicate.

An investigation of harbour needs for local industries showed no demand to warrant substantial harbour improvements. The largest new industrial plant to locate in the Area, Dupont of Canada Limited, has not as yet seen any need for water transportation. Two of the largest established industries in the Area, Howard Smith Paper Mills and Canada Starch Company, which do make considerable use of water transport, choose to retain and enlarge their own wharf facilities as the need arises.

Major outlays for a regional port to serve the harbour needs of Eastern Ontario cannot be justified economically at this time or in the immediate foreseeable future. However, this does not necessarily preclude the need for domestic harbour facilities to serve the St. Lawrence Area. Such need can be most carefully evaluated by the municipalities and by commercial and industrial firms through determining what is a realistic estimate of anticipated water traffic to and from the Area. If this estimate is found to be equal to or only slightly in excess of existing water-borne traffic volumes then the existing Department of Transport and private wharves, with possibly moderate improvement, would suffice. Or if

there appears to be justification for consolidation of wharfage facilities under one or more municipal harbour commissions, several matters should be decided in a logical sequence of investigations. The magnitude of the future harbour needs of the Area, and where these needs are likely to originate, should largely determine general location and size of harbour facilities.

Upon completion of these investigations, the selection of a specific site or sites, the drafting of harbour design plans and the determination of what form of harbour management and financing would be established, could then be pursued. To implement a harbour development project without sufficient justification for its need, and possibly place it in the wrong location, could yield meager returns and cause financial hardship to the initiating municipality and its surrounding area for many years hence.

The findings of this study suggest that two locations would appear most suitable for the consolidation of wharfage facilities as necessary, based on a combination of physical and economic considerations. One is along the water front adjoining the downtown district of the City of Cornwall and the other at the Lower Lakes Terminal, Johnstown. Reasons for the choice of these two sites are as follows:

1. Within the immediate environs of these two vicinities are found virtually all of the industrial establishments and major commercial markets in the Area.
2. The approaches and shore lines at both sites require little or no dredging to permit entry of any vessel that can use the Seaway. Wharves exist at Johnstown, which could handle general cargo as well as bulk material but a transit shed is lacking. Dredging to create a 27-foot channel has recently

been done in the North Channel and along the south bank of the Cornwall Canal, in anticipation of an All-Canadian Seaway and the harbour plans of the City of Cornwall.

3. The trans-shipment of cargo from water to good rail and highway facilities is possible at both sites. Shipping times and costs, i.e. canal lock passages and tolls, could be reduced by unloading upbound cargoes at Cornwall and down-bound cargoes at Johnstown, for example, to avoid the three locks in the International Rapids Section.
4. At Cornwall, most industrialists that would wish to use new facilities favour a downtown rather than a peripheral location.
5. At Johnstown, direct highway and rail connections with Ottawa are available, while Prescott's industries and the recent and anticipated new establishments at Maitland are near at hand.



## Railways

Excellent railway facilities serve virtually all portions of the St. Lawrence Area and appear capable of satisfying both through and domestic traffic demands for many years in the future. Although traffic capacities of railway lines and terminal facilities are not readily available, the railway companies serving the Area have indicated that their existing trackage and handling and warehousing facilities can be improved, if necessary, to serve the future rail trade of the Area. Further improvements to what already exists would only be required if the Area experiences an appreciable industrial development, in which event additional sidings, spur lines and terminal facilities between the C.N.R. main line and potential industrial areas might be required. All main manufacturing establishments in the Area are now served by adequate rail facilities.

It is probable that the principal future industrialization of the Area will occur between the C.N.R. main line and the St. Lawrence River. Water supply and industrial waste disposal are more easily secured here than in other parts of the Area. Municipal services and housing, already established in the urban centres located along the river front, would be other reasons for attracting industrial plant location here. Within the Area, no industrial plants are located near the C.P.R. main line with the exception of cheese factories at Newington and Williamstown. Although this important railway line traverses its north fringe, industrial potential does not appear evident along this axis. If such development does occur, the centres of Kemptville, Chesterville and Alexandria would likely be more attractive; national dairy products firms have located in these centres already.

Railway crossing protection controls at roads intersecting with the C.N.R. main line between Cardinal and St. Andrews Road in Cornwall have been largely implemented in conjunction with the relocation of this railroad. Fortunately, all of the urban centres of a few hundred population or more between these two points have, or soon will have, grade separations or electrical signal controls at roads leading from their centres to the north. However, a few inconsistencies in location of railway crossing protection controls exist at this time. Serious consideration should be given to the provision of grade separation or automatic gates and electrical signals at the intersection of the C.N.R. main line and the County Road (Edward Street) leading north from the Town of Prescott; automatic gates do exist at the intersection of the C.N.R. and Boundary Road, a less important thoroughfare in Prescott (Map 1a). The potential use of McConnell Avenue and Brookdale Avenue in Cornwall, especially for traffic destined for the downtown area via the interchanges planned for their intersections with Highway Number 401, would indicate that grade separations at their crossings of the C.N.R. main line should be considered.

The proximity of the main line to Highway Number 401 might lead to the conclusion that possible future industrial development in the Area would occur between these two arteries where both highway and rail transport are close at hand. However, unless river front property becomes too expensive or is not made available to industry, the desire for large industries to locate north of the C.N.R. will be minimal when it is realized that satisfactory rail connections with the river front have been secured and are capable of expansion, as mentioned earlier.

## Highways

Some general observations and recommendations may be made about future land use and traffic growth along the main thoroughfares of the Area as a result of recent highway improvements and future work planned. The main problem is to determine the conditions for allowing suburban and other non-farm uses so that orderly and desirable development may be achieved.

### Land Use and Highway Access Control

Proposed roadside development of lands remote from established urban centres should, in general, be discouraged. Such development normally results in elongated or discontinuous built-up areas that cannot be efficiently serviced. Much of the recent housing construction in Ontario has been in suburban and rural locations adjoining existing or potential main arteries. Where such development is permitted, unless access and egress are controlled, traffic congestion and accidents may be expected to accompany it.

Normally development should be permitted on the fringes of established urban centres where water, sewer, school and other municipal services, desirable or essential for intensive land use, can be efficiently provided. Rural non-farm uses such as restaurants, service stations and overnight accommodations should be sited so as to serve rather than hinder the travelling public. Preferably they should be located in orderly clusters, with service roads and combined entrances and exits provided for the safety and convenience of the motorist. Rural farm areas should be protected from the intrusion of scattered development which generally renders adjoining properties unsuitable for either continued agricultural use or future large-scale urban development.



There is legislation providing for controls on the design of, and the access to, public highways and the siting of buildings on land adjoining or near King's Highways and municipal roads and streets.\* To date the municipal governments of the St. Lawrence Area have made little use of this legislation for control of development along municipal roads and streets. The Council of the United Counties of Stormont, Dundas and Glengarry has had some discussions on these matters in recent years. It is hoped that other discussions and plans in this regard will lead to action necessary to ensure efficient future traffic circulation and land use in this Area.

Judging by recent traffic volumes serious highway traffic capacity problems do not exist generally throughout the St. Lawrence Area, but it would be wise to establish sound long-range policies on access control and improvement of anticipated main arteries before critical traffic conditions do arise, as they will ultimately, if travel and population increase substantially. For example, in reviewing subdivision applications, the planning board, could where necessary, recommend that service roads be constructed parallel to main arteries rather than permit individual access and egress from the lots of a proposed subdivision. Unrestricted access to a main artery impedes the traffic flow and creates hazards. Road widenings, elimination of concession road jogs and provision of daylighting at intersections are examples of road improvements that could be made prior to development and traffic growth at appreciably less cost and effort than waiting until the problem has become critical or new buildings render such improvements impractical.

\*The Highway Improvement Act, 1957, as amended (s. 33-36, 59, 60, 86-88)  
The Municipal Act, 1950, as amended (s.350, 350a)  
The Planning Act, 1955, as amended (s.26, 27a)

## Potential Roadside Development Sites

The guides suggested above should be kept in mind in connection with the following observations on where "pressure points" for roadside development may occur in the St. Lawrence Area. It is not within the scope of this report to suggest a specific solution for each such "pressure point" cited but merely to highlight these possibilities in such a way as to assist planning boards, councils and others that may be involved in establishing rational land use controls in the best interests of the Area.

## King's Highways

Highway Number 401 when completed throughout the Area will appreciably shorten travel times by motor vehicles. This highway will substantially increase the mobility of workers commuting by car to and from their employment. Where motorists in the Area had the choice of old Highway Number 2 and lateral highways feeding into it for inter-urban travel, they will soon have two high-type arteries. Preference for rural, suburban, or village residence and town or city employment will likely further increase in popularity as a result of these substantial improvements.

Commercial and small industrial concerns may choose to locate in suburban sites adjoining interchange points along King's Highway Number 401. They may locate their chain stores and industrial branch plants here, especially those with headquarters in South-Western Ontario and also in the Province of Quebec, by reason of improved trucking routes and reduced business travel time between head office and branch plant or store. However large industrial plants will in all probability continue to locate south of the C.N.R. main line for reasons discussed in the preceeding section on railways.

Highway Number 401 may be expected to affect the course of urban development along the St. Lawrence shore line. Where at present the built-up areas extend east and west along the river, the attraction to Highway Number 401 may, (in future) either tend to create isolated built-up areas around the interchanges or an elongated development between the present settlements and Highway Number 401 may occur (as at Cornwall) where the rate of growth is greater. Some demand for commercial property parallel to the Freeway and centring on interchange points may be created by firms wishing to obtain strategic advertising sites as well as direct access to this route for the convenience of the workers and truck transport movements.

The relocation of Highway Number 2, in conjunction with the creation of "new towns" as part of the rehabilitation of communities necessitated by the St. Lawrence Power Generation Project, will likely lead to further urban development along this route. The tourist attraction of the new towns, the Seaway works and Chrysler Memorial Farm and Pioneer Village, as well as proposed future public parks, will undoubtedly interest land developers in establishing commercial tourist facilities - motels, overnight cabins, inns, marinas, etc. along Highway Number 2 between Iroquois and Cornwall. Also the planned reconstruction of parts of Highway 16 between Johnstown and Ottawa and the new bridge under construction between Ogdensburg and this point will likely increase the frequency of interchange of business, social and recreational traffic between the Prescott-Brockville vicinity and the Ottawa Valley.



There are three locations in the St. Lawrence Area where development pressures on lands adjoining the King's Highway System are most likely to continue or be created in the future as a result of improvements in this System. These are in the Prescott-Johnstown vicinity, at Cornwall, and at Morrisburg. These conclusions result from the findings of this study considered along with our Population and Recreation studies, recent subdivision developments in the Area, and applications for subdivision approval submitted to the Minister of Planning and Development.

#### 1. Prescott-Johnstown Vicinity

The intersection of two major King's Highways - Numbers 401 and 16 - and the new international bridge to their immediate south at Johnstown, makes the adjoining land potentially desirable for tourist accommodation. It will be a transfer point for northbound U.S. traffic using the new international bridge and destined for locations east or west of it via Highway Numbers 2 or 401, or as a stopover for tourists wishing to proceed northerly to Ottawa or beyond via Highway Number 16. This vicinity would also appear to be a logical location for bus or truck terminals and industries that wish to distribute their products in two or more directions, especially if an expanded trans-shipment trade from water to highway were to occur here.

Within the past two years residential subdivision applications to develop land adjoining the Highway Number 401 interchange at Prescott, would suggest that there is a significant demand for housing sites here. When the section of Highway Number 401 under construction between Brockville and Prescott is completed, there will likely be additional subdivision activity in this vicinity because of the attraction of prospective buyers to this Freeway facility. The municipal services at Prescott will further enhance the desirability of this vicinity, especially if they are expanded northerly.

Upon completion of Highway Number 401 and the planned reconstruction of Highway Number 16, motorists and truckers at present using several alternative routes between South-Western Ontario and Ottawa and environs will, in the majority of cases, proceed to Ottawa via Johnstown to take advantage of these major King's Highway facilities, especially the Highway 401 Freeway. This reorientation and resultant increase in travel could create a favourable business stimulus to the Prescott-Johnstown vicinity. For example, business people desiring to develop highway commercial facilities such as motels, restaurants and gas stations to capture some of the anticipated increase in highway trade would probably be attracted to this vicinity. Also the improvement in highway facilities could be an important factor in the location of new commercial and industrial firms in Prescott, for example, due to better accessibility by motor vehicle and its intermediate location on a popular long-distance traffic corridor.

## 2. Cornwall Vicinity

There are two locations in the City of Cornwall where highway improvements may have a direct bearing on adjoining land development. These are in the north-central and south-western suburbs of the municipality.

The popularity of housing developments adjoining main highways has been demonstrated in the past in many areas of the Province. At Cornwall, numerous subdivision applications for residential development of lands in the north end of the City suggest that, among other reasons, the planned construction of Highway Number 401 through this vicinity is an important factor causing such activity. When Toll Gate Road and Highway Number 401 (between McConnell Avenue and the Village of Lancaster) are soon completed, the demand for land for residential, commercial and industrial uses will likely intensify here. Through east-west traffic will by-pass Cornwall and Highway Number 2 east of it via the Toll Gate Road - Highway Number 401 route creating a demand for highway commercial uses along its path. Concerns wishing to establish new shopping facilities for Cornwall and its surrounding trade area



*Courtesy—Ontario Department of Travel and Publicity*

Photo 3. Old Highway No. 2 passing through the former business district of Morrisburg.



*Courtesy—Ontario Hydro*

Photo 4. Aerial view of the new Village of Morrisburg. On the left is relocated Highway No. 2; along the shoreline are remnants of the old highway.



might choose to locate here because of the excellent highway transportation advantages.

The construction of a new international bridge at Cornwall, relocation of Highway Number 2 and the Seaway works centring on the Long Sault Power Dam will likely create a demand for tourist accommodation sites along the new and improved main traffic arteries in the south-west sector of the City.

### 3. Morrisburg Vicinity

Tourist accommodation sites will likely be sought at Morrisburg adjoining Highway Numbers 2, 31 and 401 to take advantage of the anticipated tourist trade that is expected in this vicinity as a result of the St. Lawrence Seaway and Power Generation projects and those of the Ontario-St. Lawrence Development Commission. Morrisburg is centrally located between the international border crossings at Cornwall and Johnstown, and is close to the Chrysler Memorial Park and Pioneer Village. Tourists en route to Ottawa or beyond, after visiting the Seaway works, would likely find Morrisburg a convenient stop-over point before proceeding north via Highway Number 31. Thus, although tourist accommodation may also be sought at or near Iroquois, Ingleside, and Long Sault, other new towns in the Area, the existence of King's Highway Number 31 at Morrisburg and its intermediate location between the two new international bridges might focus attention here for major private tourist development sites.

### Municipal Roads

Rural non-farm development, principally residential, along the north-south County and Suburban Roads of the southerly portion of the St. Lawrence Area will likely continue if allowed to, and possibly intensify. Factors that might contribute to this development in future are the improvements in east-west highway communications (King's Highways 2 and 401) and the growing popularity of travelling to work by private automobile from a rural to an urban location.

The rural and suburban municipal roads that can be expected to experience greatest roadside development pressures are the Cornwall Suburban Road running between the City and St. Andrews; the Prescott Suburban Road; and the Maitland and Summerstown County Roads between these centres and Highway Number 401 or beyond. Forecast populations and current subdivision activities in Cornwall, Augusta and Charlottenburgh Townships, as well as rapid growth in motor vehicle registrations in these vicinities would substantiate these observations. Unless such potential urban development is properly controlled by the use of official plans, zoning, subdivision control and building by-laws then "shoe-string" roadside developments and other undesirable urban patterns will occur with associated costly or substandard municipal services, unsightliness, danger of accidents and reduced traffic capacities.

Other municipal roads that may experience roadside development pressures include the County and Township roads between the remaining river front communities of Cardinal, Iroquois, Ingleside and Long Sault and their respective intersections with King's Highway 401 where interchanges either exist or are programmed. This latter group of municipal roads may not be subjected to as intensive development demands as those mentioned above judging by subdivision activities and population forecasts. However, cheaper residential lot cost in suburban and rural roadside sites than those in the "new towns" (due to fewer municipal services) is an important factor accounting for their popularity. If the prohibition of access from proposed residential properties to King's Highway Number 2 is maintained this would be another contributing factor in the case of pressures for municipal roadside development.

The popularity of St. Andrews, Bonville, and Martintown as places of residence for City of Cornwall workers, as experienced in recent years, may be an indication that land adjoining the County Roads between these centres will also be south for suburban development.

Finally there will likely be a demand for sites along the access road between Highway Number 401 and the Crysler Memorial Park and Pioneer Village for the purpose of establishing tourist accommodation and other commercial facilities.



## Airports

Municipal airports, it is generally conceded, are not normally self-sustaining financial enterprises except for large metropolitan ones (such as at Toronto and Montreal) and thus they require subsidization of one kind or another. Whether or not subsidies should be allocated for municipal aerodromes then depends on some measure of their benefits to business stimulus and service to the public. A serious difficulty in assessing air service needs of an area is the absence of tangible criteria that may be used to determine their validity.

The findings of our brief investigation of air transportation needs have not revealed an apparent need for any large airport within the St. Lawrence Area, now or in the near future. (By "large airport" is meant a municipal or national airport requiring an initial expenditure in excess of, say, one million dollars plus costly maintenance and improvement expenditures.) The difficulty of providing any self-sustaining commercial air services in the St. Lawrence Area results from short stage lengths serving small population centres in a locality connected to large metropolitan cities by adequate, low cost surface transportation. This does not mean necessarily that the Area is incapable of supporting one or more small airfields for air school training, pleasure flying and chartered flights by light aircraft. Such an airfield is under construction now a few miles north of the Town of Brockville. Officials in the St. Lawrence Area would be well advised to observe how successful this venture is over the next few years.

Assuming that an airport does not attract any significant volume of traffic from a radius of greater than about 25 miles, the Brockville Airport would not serve the easterly portion of the St. Lawrence Area satisfactorily, even if complete

air services were supplied. Since population and business are concentrated in the Brockville-Prescott and Cornwall vicinities, a new airport at Cornwall, as well as one at Brockville, might seem logical on the one hand. In fact there is an application pending to establish a local service between Toronto, Peterborough, Kingston, Cornwall and Montreal. No substantial private airport service has successfully established to date in the Area. However, it was recently announced that Cornwall Airways had started construction of an airport near Bonville and have plans for expansion as the need arises. At the time of writing they had not received a charter to operate.

At the present time Massena and Ogdensburg, New York have municipal airports that are conveniently located within about a dozen miles, more or less, from Prescott and Cornwall. New international bridges will soon be completed across the St. Lawrence River between the above New York State and Ontario population centres. Both the Massena and Ogdensburg Airports have sufficient runway capacity to accommodate anticipated increases in air traffic for at least five to ten years and each has regular and chartered flight services for medium to large aircraft. Thus economies in airfield development expenses might be effected in both Ontario and New York State if border-crossing regulations and flight destinations from Brockville, Massena and Ogdensburg could be worked out by some international agreement as well as co-operation between the respective federal and municipal governments.

Since air travel is becoming more common each year, it is reasonable to expect that the St. Lawrence Area will ultimately require major airport facilities. Municipal planning proposals might logically anticipate future airfield requirements and their impact on land use, utility installations and traffic movements.

The timing, therefore, rather than the eventual existence of major airport facilities in the Area is what requires careful consideration.



P A R T   T W O

S   U   R   V   E   Y

A   N   D

A   N   A   L   Y   S   I   S





## A. WHARF FACILITIES AND COASTING TRADE

The St. Lawrence Seaway and Power projects have been undertaken with these two objectives in mind: to improve the inland navigational facilities of the river between Montreal and Lake Ontario and to harness its hydro-electric power potential. Upon completion, the 21 locks of the St. Lawrence Canals and 14-foot minimum draughts that existed previous to commencement of the Seaway project will be replaced by 7 locks and minimum channel depths of 27 feet. An additional 2.2 million horsepower will be generated at the new international power site at Cornwall. The St. Lawrence Seaway costs in total are expected to slightly exceed one billion dollars. Power generation works, which are totally contained within the International Rapids Section, will cost about 600 million dollars, to be shared equally by the Ontario Hydro-Electric Power Commission and New York Power Authority. The larger share of navigation works will be constructed, paid for and maintained by the Canadian Government, and the remainder by the United States Government. The new power house at Cornwall was put into operation in July, 1958, and the new draught canals were opened to navigation in the spring of 1959.

Detailed information about the physical features of the improved Seaway as they affect the movements of water-borne carriers is not within the scope of this report. Reference to publications by the Department of Transport of Canada, the Hydro-Electric Power Commission of Ontario and the St. Lawrence Authority, provides excellent material on the formulative stages of the project, work in progress and future expectancies.

## Seaway Tolls and Traffic

A joint decision to levy Seaway tolls has recently been made between the St. Lawrence Seaway Authority and the St. Lawrence Development Corporation. In view of the relatively low rates set on both bulk and packaged cargo, future water-borne trade in the St. Lawrence River-Great Lakes Area will be placed in a favourable competitive position with railway and truck transportation. Of particular advantage to the lake carriers is the fact that domestic packaged freight - that is, general cargo moving between two Canadian ports - will be charged only the bulk rate which is approximately half the packaged freight rate from or to Canada and foreign ports. This condition will likely result in the gain by the lake carriers of some existing and potential railway and trucking business.

The total water-borne cargoes passing through the St. Lawrence Canals System steadily declined between the 1956 and 1958 shipping seasons. Table One illustrates this decline which has been a general trend in the Canadian shipping trade in this period. This decrease was largely due to the declining iron ore and coal shipments, resulting from the recessive condition of the steel industry. However the first three months of 1959 showed an increase in total cargo of 45% over the same period in 1958. The division of the traffic to the end of June for the year 1959 was 89% bulk and 11% general cargo. The deep-water drafts are undoubtedly one factor causing such a substantial increase in traffic.

TABLE ONE (1)\*

## WATER CARGO TONNAGES (in millions)

	1954	1955	1956	1957	1958
St. Lawrence Canals System	9.6	11.4	13.5	12.2	11.8
Welland Ship Canal	17.5	20.9	23.1	22.4	21.2
Sault Ste. Marie Canal (Canadian Lock)	2.6	2.2	3.0	1.8	1.2

In the past decade, the traffic of the St. Lawrence Canals System, that is, water-borne tonnages passing between or beyond Lake Ontario and Montreal has, approximately doubled. It was estimated in 1957 that the St. Lawrence Seaway tonnage would be of the order of 34.8 million short tons in 1960 and 53.4 million in 1964.(2) According to these estimates, within five years of completion of the Seaway the traffic would be expected to quadruple pre-Seaway Project volumes. An estimated three-fifths of the future cargoes may be grain and iron ore; petroleum products, coal and coke, and forestry products may account for one-quarter and the remainder may consist of miscellaneous bulk and packaged freight.(3) Whether or not the forecast tonnages are liberal, in consideration of recent declines in the St. Lawrence shipping volumes, requires further analysis. It appears unlikely that the 1960 estimate of 34.8 million tons will be reached. However if the spring shipping season of 1959 is representative of future movements, the 1964 estimate could be exceeded.

#### Existing Wharf Facilities and Trade in the Area

Previous to the Seaway power generation works, wharf facilities of one kind or another had been established at Prescott, Johnstown, Cardinal, Morrisburg and

\* (1) - For numbers in parenthesis refer to "Source Material List", end of report.





*Courtesy—Ontario Department of Travel and Publicity*

Photo 5. The Lower Lake Terminal, Johnstown. These elevators can store  $5\frac{1}{2}$  million bushels of grain at one time.

Cornwall. These facilities have remained intact following completion of the power generation project except for the small wharf at Morrisburg which was removed with the Morrisburg Lock before inundation of the shore line here. At Cornwall however, ships proceeding to the wharves located between Lock Number 15 (the downstream terminus of the Cornwall Canal) and the new Power Dam must now turn around, or in some instances, back out of the Cornwall Canal following the discharge of their goods.

The existing wharf facilities, their ownerships, water depths and principal goods handled are listed in Table Two and their locations are set out on Map 1. The maximum water depths of most of these wharves permit the use of 14-foot draught vessels although at Prescott and Johnstown maximum draughts of 20 and 23 feet respectively are permissible. The water-borne cargoes handled at these wharves are largely bulk goods - grain, coal, oil and pulpwood - that are unloaded, stored and distributed normally within the centre of import and occasionally to destinations as far away as Ottawa. Few goods are exported from these wharves and packaged freight is, in comparison to bulk cargo, very small.

Complete statistics on cargo tonnages for each of the wharves in the Area are not readily available for the reason that most are under private ownership (see Table Two). The recent figures on tonnages handled that are available include in some instances a large proportion of Seaway construction materials which means that they are not all representative of normal harbour trade. A lengthy investigation would be required to obtain reliable and representative figures on the Area's harbour trade. However some estimates of the volumes of cargoes handled at Johnstown, Cornwall and Cardinal can be stated with reasonable confidence; no figures on the Town of Prescott were available at the time of writing this report. The terminal warehouses at Port Johnstown have in recent years received and trans-shipped about

## DOCK FACILITIES (1958)

Map 1 Index No.	Location	Owner	Berthing Length	Water Depth Alongside	Channel Depth	Main Cargoes Handled
1	Town of Prescott	Canadian Pacific Railways	420'	19'	16-18'	Coal
2	Town of Prescott	Canadian Pacific Railways	503'	16'	16-18'	Disused
3	Town of Prescott	Buckley Estate	400'	14-22'	16-18'	Coal and General Freight
4	Town of Prescott	Canada Steamship Lines	400'	16'	16-18'	Coal
5	Town of Prescott	Bruce Coal Company	350'	14-16'	16-18'	Coal
6	Port of Johnstown	Dept. of Transport (National Harbours Board)	1300'	25'	24-25'	Unloading Grain
7	Port of Johnstown	Dept. of Transport (National Harbours Board)	930'	25'	24-25'	Loading Grain
8	By Lock 27 - 2 mi. west of Cardinal Village of Cardinal	Empire-Hanna Coal Co.	231'	14'	14'	Coal
9		Canada Starch Co.	474'	14'	14'	Corn and Coal
10	Flagg Creek - 4 mi. east of Iroquois	Sun Oil Company	-	-	-	Gasoline and Oil
11	City of Cornwall	Dept. of Transport	280'	14'	14'	Berthing Only
12	City of Cornwall	Dept. of Transport	240'	9'	14'	General and Bulk Freight
13	City of Cornwall	Dept. of Transport	1170'	14'	14'	Berthing Only
14	City of Cornwall	Howard Smith Paper Mills	80'	14'	14'	Pulp Wood
15	City of Cornwall	Howard Smith Paper Mills	165'	14'	14'	Coal
16	City of Cornwall	Universal Terminals Ltd.	200'	14'	14'	Fuel Oils
17	City of Cornwall	Hy-Trous Company	279'	14'	14'	Fertilizers
18	City of Cornwall	Lally-Munro Fuels Ltd.	815'	14'	14'	Coal
19	City of Cornwall	Canada Steamship Lines	160'	14'	14'	Disused







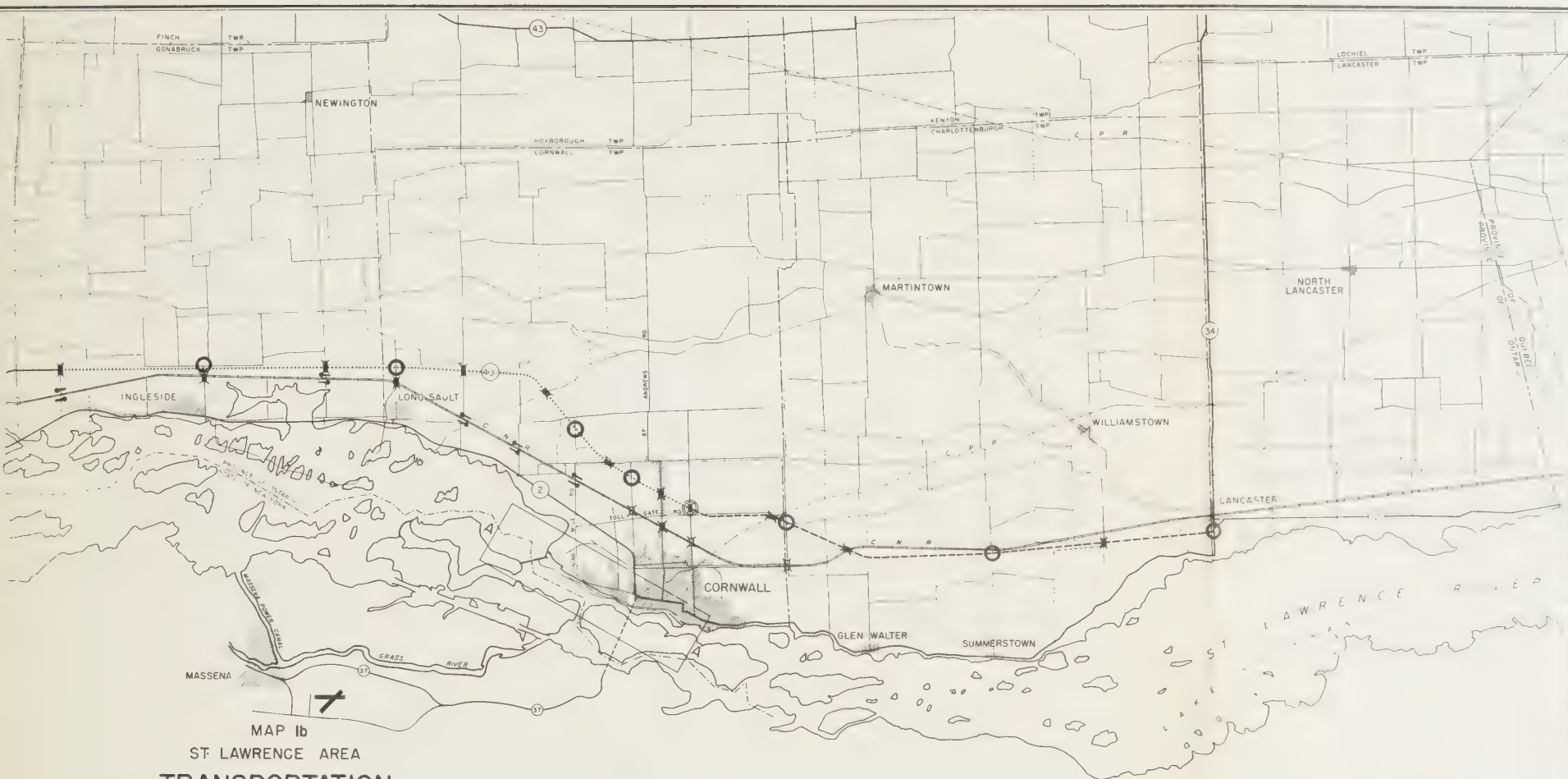
MAP 1a  
ST. LAWRENCE AREA  
TRANSPORTATION

	EXISTING OR AUTHORIZED	PROPOSALS
HIGHWAY INTERCHANGE		
GRADE SEPARATION		
GATES, LIGHTS, & BELLS		
AIRPORT		
WHARF		
KING'S HIGHWAY 401 UNDER CONSTRUCTION		

† For reference numbers, See Table Two

SCALE 0 1 2 3 4 MILES

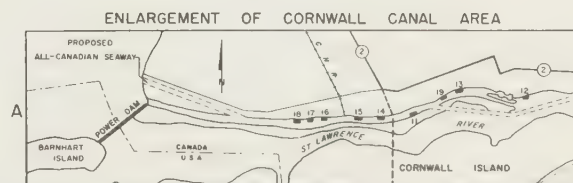
DEPARTMENT OF PLANNING AND DEVELOPMENT  
COMMUNITY PLANNING BRANCH  
AUGUST 1959



MAP 1b  
ST LAWRENCE AREA  
TRANSPORTATION

- |  |                           |           |
|--|---------------------------|-----------|
|  | EXISTING OR<br>AUTHORIZED | PROPOSALS |
| HIGHWAY INTERCHANGE                      |                           |           |
| GRADE SEPARATION                         |                           |           |
| GATES, LIGHTS, & BELLS                   |                           |           |
| AIRPORT                                  |                           |           |
| WHARF                                    |                           |           |
| KING'S HIGHWAY 401<br>UNDER CONSTRUCTION |                           |           |

† For reference numbers, See Table Two



SCALE 0 1 2 3 4 MILES

DEPARTMENT OF PLANNING AND DEVELOPMENT  
COMMUNITY PLANNING BRANCH  
AUGUST 1959



one million tons of grain per annum.(4) According to our recent survey of water trade in the Area, the 1957 inbound shipments at Cornwall via all wharves amounted to slightly more than one-quarter million tons, comprising about 170,000 tons of coal, 65,000 tons of fuel oil, and the remainder of miscellaneous bulk commodities. No information on tonnages of water-borne packaged freight handled at Cornwall was found; if there is any general cargo handled it is likely a small amount. At Cardinal about four million bushels of corn and enough bunker coal to run their mills are imported by the Canada Starch Company via their own wharves and the Lower Lakes Terminal.

#### Future Trends

Any increase in the coasting trade of the St. Lawrence Area must depend primarily on the Area's general economic development. The limited coasting trade that exists at the present time is primarily one of importing bulk products for local processing and subsequent outbound shipment by railway or truck. Until the manufacturing output of the Area increases substantially or natural resources such as iron ore, oil or coal are discovered in its "port-hinterland" area and have an export market, elsewhere in Canada or in foreign countries, there is no reason to expect an expansion in harbour trade.

The trans-shipment function of the Area is cited as a coasting trade of some importance because of the Seaway Tolls that are to be imposed. However, in regard to the terminal elevators at Port Johnstown, if maximum savings in freight charges on grain shipments are to be attained by use of the improved Seaway, the trans-shipment trade will likely decrease here. Overseas grain shipments in future will likely be dispatched from Montreal or Quebec or proceed directly to the foreign port of destination. Thus, the reduction of the number of locks from 21 to 7 in the St. Lawrence River will encourage through traffic but will not in itself be a boon to the coasting trade of centres located along its path.



The tolls that have been put into effect since the Seaway opening would not appear in themselves to create a new coasting trade for the Area since they have been set at a rate that makes water transport competitive with railway and truck transportation rates. However, if trans-shipment from boat to railway car or truck were found more economical because of the Seaway toll rates in the St. Lawrence Canals System, then Montreal would appear to be a more suitable transfer point for goods bound upstream than any centre in the Area since it is at the downstream end of the locks.

Major ports such as at Montreal and Toronto have been expanding their handling facilities and docking space in anticipation of the increased overseas and domestic trade that is expected as a result of the St. Lawrence Seaway navigational improvements. To accommodate the large lake and ocean vessels - some capable of carrying cargoes of 20,000 tons or more - would require handling and storage facilities of considerable size. The modest cargo traffic of small centres would not justify major outlay on storage facilities necessary to accommodate these large freighters.

A trend then toward the consolidation of port facilities in the larger centres is more probable than the diversity of the coasting trade by provision of several new harbours along the St. Lawrence-Great Lakes water transportation corridor. This trend will probably be strengthened by the expected decline in the number of canal-size vessels that can economically load and unload relatively small amounts of bulk cargo at any port and also by the competition from fuel pipelines which influence oil and coal traffic.

## Harbour Plans

Municipal officials in the Area have considered harbour plans for the Johnstown, Morrisburg and Cornwall vicinities at various times since the Seaway Project was definitely decided upon. Also, the railway companies and the Federal Government have made investigations of possible harbour needs. Reports on this subject have been made public by the Canadian National Railways and the City of Cornwall, (5) and (6).

In 1953, a development report of the Canadian National Railways recommended that an area of about 1,000 acres in the south-east sector of the City (as now constituted) be protected for industrial use and that river frontage forming the south limit of the area be protected for dock facilities. On the basis of this report and the local belief that a new opportunity for harbour business would likely result from the Seaway improvements, in conjunction with rapid growth of the City, the City Council asked a civil engineering consultant firm to prepare a preliminary report on a harbour proposal. The terms of reference for this report included the land in the south-east sector of the City and adjoining Pilon Island. The consulting firm prepared schematic functional plans for such a harbour and recommended staging of its development, (6). The City proceeded to buy approximately 100 acres of land in the extreme south-east corner of the municipality to be reserved for anticipated harbour facilities and industrial sites. Representations were made by the City to the Federal Department of Transport to establish a local harbour commission at Cornwall.

As stated earlier in this report, no apparent need for any substantial expansion of the area's wharfage facilities in the immediate future has been discovered. The three main factors that might apply to the question of a harbour

development at Cornwall, or at any other somewhat similarly situated area, would appear to be the local port's general trade, the hinterland's general trade, and future industrial needs for harbour facilities. Neither the existing local port trade potential nor the hinterland trade appears to be sufficiently large to warrant a major harbour undertaking at this time. The limited Ottawa trade that exists is captured by the Port of Montreal and little other trade exists in the area between the Ottawa Valley and the St. Lawrence Area. Hence, it would seem that until such time as port-using industries in the area experience substantial development, the need for a large-scale increase in harbour facilities is not great.

## B. RAILWAY FACILITIES

The continuing trend towards consolidation of the railway network along main corridors of long-distance freight haul - characteristic of southern Ontario where the branch lines are being abandoned and main lines are handling more traffic- is largely reflected in the area under study. Here the main axis of rail traffic follows the St. Lawrence Valley. Lateral branch lines that penetrate inland are losing their trade to the more efficient motor vehicle transportation. Indications of these transitions in the Area are demonstrated by the recent abandonment of the Ottawa and New York Railroad and the fact that public passenger service between the Area and the Ottawa Valley or intermediate points is only available by bus transit. However the C.P.R. provides daily passenger service between the Area and the Ottawa Valley via Brockville.

### Existing Facilities

Several railway lines at present serve the Area; the Canadian National Railway's main line from Toronto to Montreal, and the Canadian Pacific Railway Company's branch lines from Prescott to Bedell and Cornwall to Soulanges intersecting in both cases with the C.P.R. main line and proceeding to Ottawa and Montreal respectively. Also the C.P.R. main line from Toronto to Montreal traverses the north fringe of the Area and the Cornwall Street Railway, Light and Power Company provides local railroad car distribution to industries located within the City of Cornwall on trackage paralleling the main streets. The railway lines and crossing controls are shown on Map 1.

The relocation of the Canadian National Railway's main line between Cardinal and Cornwall has been completed preceding inundation of the original trackage along the St. Lawrence River. In conjunction with this relocation,





*Courtesy—Ontario Hydro*

Photo 6. Construction of the C.N.R. main line, new double-track extending over the 40-mile section from Cornwall to Cardinal.



*Courtesy—Ontario Hydro*

Photo 7. New Cornwall Station on relocated C.N.R. Abandonment of the old line was necessary to make way for the St. Lawrence Power Project.

new station grounds were built for all of the river front communities that formerly had them along the old main line. New buildings were constructed at Iroquois, Morrisburg, Ingleside, Long Sault and Cornwall. The Ingleside and Long Sault stations have not been used to date, but if the demand for passenger service arises they are available for use.

A new industrial spur had been constructed from the main line to Morrisburg. The feeder line to Cardinal has remained intact as a private siding serving the Canada Starch Company. Iroquois, Ingleside and Long Sault have team tracks within the station grounds of each of these centres; they are located parallel to and on the south side of the main line in all cases. Under C.N.R. ownership, the team tracks are available to local industries for loading and unloading manufactured goods and raw materials.

At Cornwall, the C.N.R. has sufficient land immediately east of the junction of the original and relocated main lines to add several new tracks if business warrants their construction. Recently there have been two passing tracks added parallel to the main line including a crossover and connection to the original tracks in Cornwall proper.

#### Abandonment

In September, 1956, the New York Central Railway Company and the Ottawa and New York Railroad Company, lessee of the N.Y.C.R. Company, applied to the Board of Transport Commissioners for Canada for the abandonment of their line from Cornwall to Ottawa. The Board issued an order in January, 1957 to permit abandonment of this line in mid-February, 1957. The extension of this line from Cornwall to the junction with the New York Central Railway main line at a point east of Massena, N.Y. was abandoned concurrently with the Canadian section.

Several valid reasons for its abandonment are contained within the application to the Board of Transport Commissioners. The application was initiated as a result of the necessary relocation of the railway over the St. Lawrence River at an estimated total expenditure of \$9,322,000. Since a new international bridge was programmed for construction to replace the then existing Roosevelt Bridge used by the Ottawa and New York Railroad, it was contended by the railway companies that such an expenditure was not economically justified in view of the financial returns from the operation of the Branch line. Examination of the application for abandonment, rather than replace the bridge, clearly confirms this statement as illustrated by the following excerpt:

"Approximately 85% of the originating or terminating traffic . . . . moves to or from either Cornwall or Ottawa, each of which is served by other railways."

The passenger service consisted of one daily passenger train in each direction in 1951, and was permanently discontinued in 1954. In regard to freight service since July, 1956, only 3 trains per week in each direction were maintained.

### Traffic

Although no railway traffic volume data are available, it is assumed that most freight and nearly all passengers to and from the Area are carried on the C.N.R. main line. Daily passenger and express service are available to the larger urban centres along its path. The smallest centres of Ingleside, Long Sault, Summerstown and Lancaster do not at present have passenger service; Iroquois and Morrisburg have two trains daily; Prescott - four; Cornwall - eight; and Brockville - ten. Express (fast) trains travelling between Toronto and Montreal, one each way daily, stop at Brockville and Cornwall.\* On the average, 30 or more freight trains pass over the C.N.R. main line each day.

\* In the summer months two express trains serve the Area stopping at Brockville and Cornwall (Summer Time Table, C.N.R. and C.P.R.)

The Canadian Pacific Railway branch lines running northerly from Prescott and north-easterly from Cornwall provide one daily passenger train each way as well as freight service, except Sunday. The Prescott branch line carries about 10 freight trains per day and the Cornwall branch line about 2 trains per week at the present time. The C.P.R. main line traversing the north fringe of the Area carried 3 daily passenger trains and about 24-30 freight trains per day in each direction; on Sunday there is one passenger train each way. The C.P.R. line between Ottawa and Brockville connects with C.N.R. trains at Brockville and provides 2 trains per day in each direction.

These train volumes, when studied in conjunction with King's Highways and municipal road traffic volumes, provide an important measure of the type of railway protection control that should be put into effect at any given intersection of highway and railway line. For example, one important aspect is the "exposure factor" which is a measure of the product of the number of highway vehicles and trains intersecting, that is, a measure expressing the degree of probability of collision or delay to motor vehicles, passengers or pedestrians. The Ontario Department of Highways is at the present time investigating a method of determining warrants for railway crossing protection controls. These studies will be of considerable assistance to the Board of Transport Commissioners for Canada in dealing with applications for such crossing controls.

The railway crossing protection controls that exist or are proposed are contained on Map 1. It will be noted that grade separations exist or are programmed at most of the main roads that intersect with the C.N.R. main line. In respect to safe, efficient transportation facilities, access to grade separations at both the C.N.R. or Highway Number 401 will be a significant factor in the location of subdivisions.



## Future Plans

If new harbour facilities were established in Cornwall, the C.N.R. would endeavour to construct a feeder line between the harbour and its wide right-of-way along the main line which could have additional tracks added as needed. The C.P.R. and the Cornwall Street Railway would also consider feeder lines if new business warranted their construction.

In November, 1957, the C.N.R. purchased the abandoned right-of-way and trackage of the Ottawa and New York Railroad. The tracks have already been removed between Ottawa and the new C.N.R. main line. It is the Railway's intention to dispose of the right-of-way over an indefinite period of years. The section of this line south of the main line has been reconstructed and connects with the original main line in the east end of the City of Cornwall. It is to be used as an industrial spur serving existing industries in Cornwall's south-west section (see Map 1b).

A partnership between the Canadian Pacific Railway Company and the New York Central System for the operation of a freight car ferry service between Prescott and Ogdensburg was recently formed on an equal share basis. Previously, this service was maintained by the Canadian Pacific Car and Passenger Transfer Company Limited.

No other future plans of the railway concerns that serve the Area are known at this time. It is likely, however, that if an expanded harbour or industrial trade were to occur in the Prescott-Johnstown vicinity that the existing terminal railroad facilities of the C.P.R. and C.N.R. would be used to greater capacity. Possibly moderate expansion of these facilities would be necessary although several sidings exist there now.

## C. HIGHWAY TRANSPORTATION

The use of motor vehicles has increased a great deal in the past ten years. Possibly the most important reason for its popularity for passenger travel is the wide degree of flexibility offered the motorist in moving from place of residence to almost any desired destination and at any time that he chooses to make the trip. The rapidly growing truck transport business may be largely attributed to a similar factor - greater choice of routing than by railway or boat. Also the truck is becoming a principal distributor of rail and water cargoes from major terminal points to final destinations. The current and planned highway improvements in the St. Lawrence Area and beyond will likely have a greater influence on immediate future travel habits and land development trends than any other mode of transportation.

### Motor Vehicle Registrations

Tables Three A and B indicate that in the five-year period 1954-1958 the annual rate of motor vehicle registration increase was least between 1957 and 1958 in the Four-County total encompassing the Study Area, i.e. Dundas, Grenville, Stormont and Glengarry. Certain general conclusions may be drawn about the Area from these statistics, qualified somewhat by the fact that the County registrations include the second-tier of Townships immediately north of the area under study.

The City of Cornwall has experienced nearly half of the total increase in registrations between 1954 and 1958 within the Four Counties. Although this increase is partly a result of the January 1, 1957 annexation of most of the urbanized portion of Cornwall Township by the City, there has been nonetheless a very substantial increase in the Cornwall metropolitan area judging by the Stormont County registration record. Also Grenville County's increase have been substantial, likely because of increases in population in Augusta Township.

TABLE THREE A (7)

MOTOR VEHICLE REGISTRATIONS

	1954	1955	1956	1957	1958
City of Cornwall	7595	8091	8514	10946	17109
Stormont County	12244	13276	14110	16051	6627
Dundas County	6079	6529	6875	6996	6627
Grenville County	6007	6355	6602	6943	7187
Glengarry County	6134	6957	7342	7446	7036
Four County Total	30464	33117	34929	37436	37959
Province of Ont. Total	1489980	1617853	1710240	1793499	1868922

TABLE THREE B (7)

PERCENTAGE INCREASES, MOTOR VEHICLE REGISTRATIONS

	54/55 Inc.	55/56 Inc.	56/57 Inc.	57/58 Inc.	54/58 Inc.
City of Cornwall	6.6	5.2	28.6	1.4	46.0
Stormont County	8.4	6.3	13.8	6.6	40.0
Dundas County	7.4	5.4	1.8	-5.3	9.0
Grenville County	5.8	3.9	5.2	3.5	19.6
Glengarry County	13.4	5.5	1.4	-5.5	14.7
Four County Total	8.7	5.5	7.2	1.4	21.6
Province of Ont. Total	8.6	5.7	4.9	4.2	25.4

Registrations in Dundas and Glengarry Counties have declined between 1957 and 1958.

### Travel

Table Four summarizes the anticipated 20-year travel trends in Ontario as forecast in an Ontario Department of Highways report of August 1957.<sup>(8)</sup> The population forecast for the St. Lawrence Area is comparable. If the economic growth rate of the Area is found to be similar to Ontario, for which future trends can be more reliably estimated, then similar travel trends may be expected in the Area as well.

TABLE FOUR  
FUTURE TRENDS IN ONTARIO

	1956	1976	76/56 Ratio
Population (in thousands)	5,405	8,575	1.6
<u>St. Lawrence Area</u> (thos.)	<u>82</u>	<u>130*</u>	<u>1.6</u>
Motor Vehicle Registration (thos.)	1,698	4,235	2.5
Total Travel (million vehicle-miles)	15,146	38,956	2.6
Ownership (persons per vehicle)	3.2	2.0	0.6
Travel Per Vehicle (in miles)	8,900	9,200	1.03

\* Population Study, St. Lawrence Area (1956).

The relative traffic flows on King's Highways and County Roads of the Area for an average 24-hour day in the year 1957 are shown on Map 2<sup>(9)</sup>. Since 1957, traffic volumes have changed appreciably due to the creation of new towns and removal of old centres such as Moulinette and Mille Roche because of flooding. Although more recent traffic data are available for the King's Highways, County Road counts have not been taken since 1957, the only year that could be selected for comparative purposes.

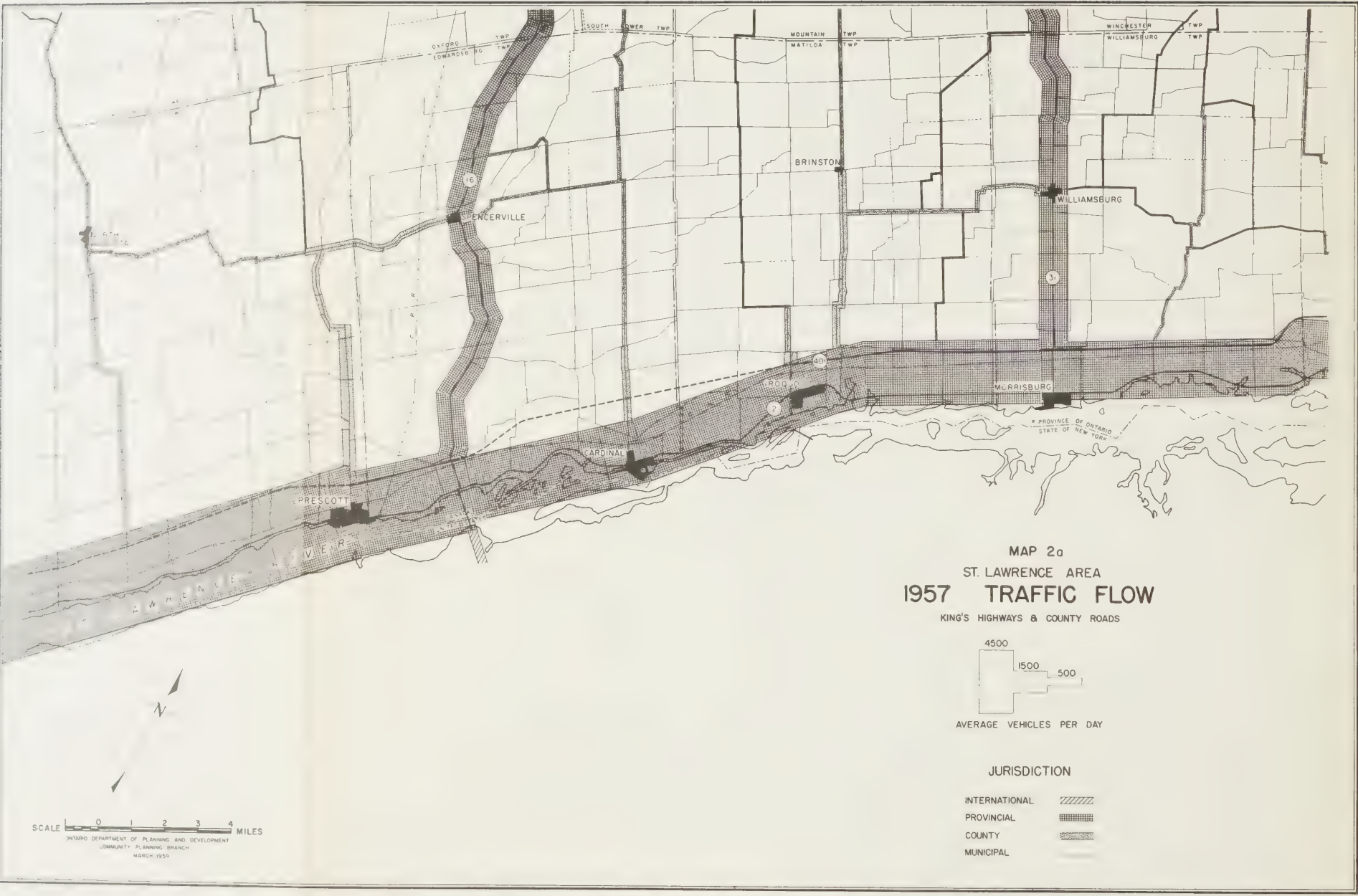


Map 2 illustrates that King's Highways are the Area's busiest roadways, with the notable exception of the Suburban County Road running northerly from Cornwall. Traffic volumes for King's Highways 2 and 401 have been combined in one flow band due to diversion of traffic from one highway to the other during 1957 as construction progressed. The flow bands have been distinguished according to present highway jurisdiction, that is: Provincial (King's) Highways, County and Suburban Roads, and Township Roads. Although Township Road traffic volumes have not been recorded, they are generally lower than those of the County or Provincial highways since Township Roads serve principally agricultural areas which have low population densities.

#### Trip Characteristics

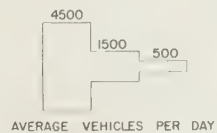
External origin and destination surveys were conducted at Cornwall and Brockville in the summer of 1952 by the Ontario Department of Highways to determine the magnitude and characteristics of trips to and from these two centres. Although these surveys are outdated in terms of trip numbers and certain interurban detail, due to traffic increases and relocations of the Area's river front communities, they are likely representative of relative travel desires to and from Cornwall and Brockville on an average week day at the present time. A summary of these surveys is shown graphically on Map 3. This map illustrates that Cornwall's external travel orientation is predominantly to the east, notably Montreal, while Brockville's is to the west with major centres in South-Western Ontario. Trip frequency between Ottawa and these two centres is about the same. Morrisburg appears to be more attracted to Cornwall than it does to Brockville while the reverse appears to be the case with Cardinal and Iroquois in their attraction to these centres. The large travel desire between Brockville and Prescott would be expected due to their proximity.









**MAP 2b**  
**ST. LAWRENCE AREA**  
**1957 TRAFFIC FLOW**

KING'S HIGHWAYS & COUNTY ROADS



**JURISDICTION**

INTERNATIONAL   
 PROVINCIAL   
 COUNTY   
 MUNICIPAL 

SCALE  MILES  
 ONTARIO DEPARTMENT OF PLANNING AND DEVELOPMENT  
 COMMUNITY PLANNING BRANCH  
 MARCH 1959







A retail area survey of the Area made by the Department of Mines and Technical Surveys in 1953 bears out the Cornwall origin and destination survey. In this latter survey Cornwall have a commercial domination over Morrisburg and intermediate service centres. Cornwall's limit of influence to the west included at that time Iroquois and Prescott. It would be expected however that Brockville would have greater commercial domination over Prescott and Iroquois than Cornwall judging by the Brockville origin and destination survey.

### Trucking

The improved Seaway is not expected to have any major impact on the trucking traffic of the Area which is at present relatively small in terms of movements between the Area and external points. It is not a major distribution centre for goods transferred from either water or rail to truck. The railway and steamship companies have a "through water-rail rate" in which the trucking companies have not taken a part, except in cases of emergency in the past.

In general then, trucking movements are of short length and are not able to compete with the longer movements by rail and water. An increase in the lateral trucking movements, i.e. from the river to points, say, 75 to 125 miles north, would be anticipated if Cornwall, or any other centre located on the Seaway, were to develop a marine terminal for transfer from boat to truck.

## Highway Facilities

Each of the incorporated urban centres in the Area is served by either a King's Highway or County Road leading in east, west and north directions to cities, towns, service centres, and agricultural areas beyond the limits of the Study area (see Map 2). Generally, the County Roads and King's Highways serving the urban centres of the Area are of satisfactory physical condition and (geometric) design to accommodate today's traffic. All of the King's Highways are paved, two-lane roadways and the majority of County Roads are either paved or hard surfaced, consistently so in the case of those leading north from the incorporated urban municipalities. Virtually all of the Township Roads in the Area, comprising some 85% of the total rural highways and road mileage, are unpaved but many have improved gravel surfaces. Their traffic use to date has not generally warranted pavement.

Six King's Highways serve the Area at the present time. Highway Numbers 401 and 2 traverse the Area longitudinally and Highways 16, 31 and 34 are lateral connections, between the St. Lawrence and Ottawa River Valleys, running northerly from Johnstown, Morrisburg and Lancaster respectively. Also Highway Number 43, running between Highways 31 and 34, skirts a portion of the north fringe of the Area. Highway Numbers 401 and 2 have been designated as Controlled Access Highways under the terms of Part II of The Highway Improvement Act, 1957, as amended.

King's Highway Number 401 is being built in stages across the Area and those sections now open to traffic, although graded for four lanes of pavement and divided by a median strip, have only two lanes of pavement at the present time. It is planned ultimately as a four-lane, divided Freeway with full control of access including grade separations at all important intersecting roads and railways throughout the Area. Some minor municipal roads that at present cross the Highway Number 401 route

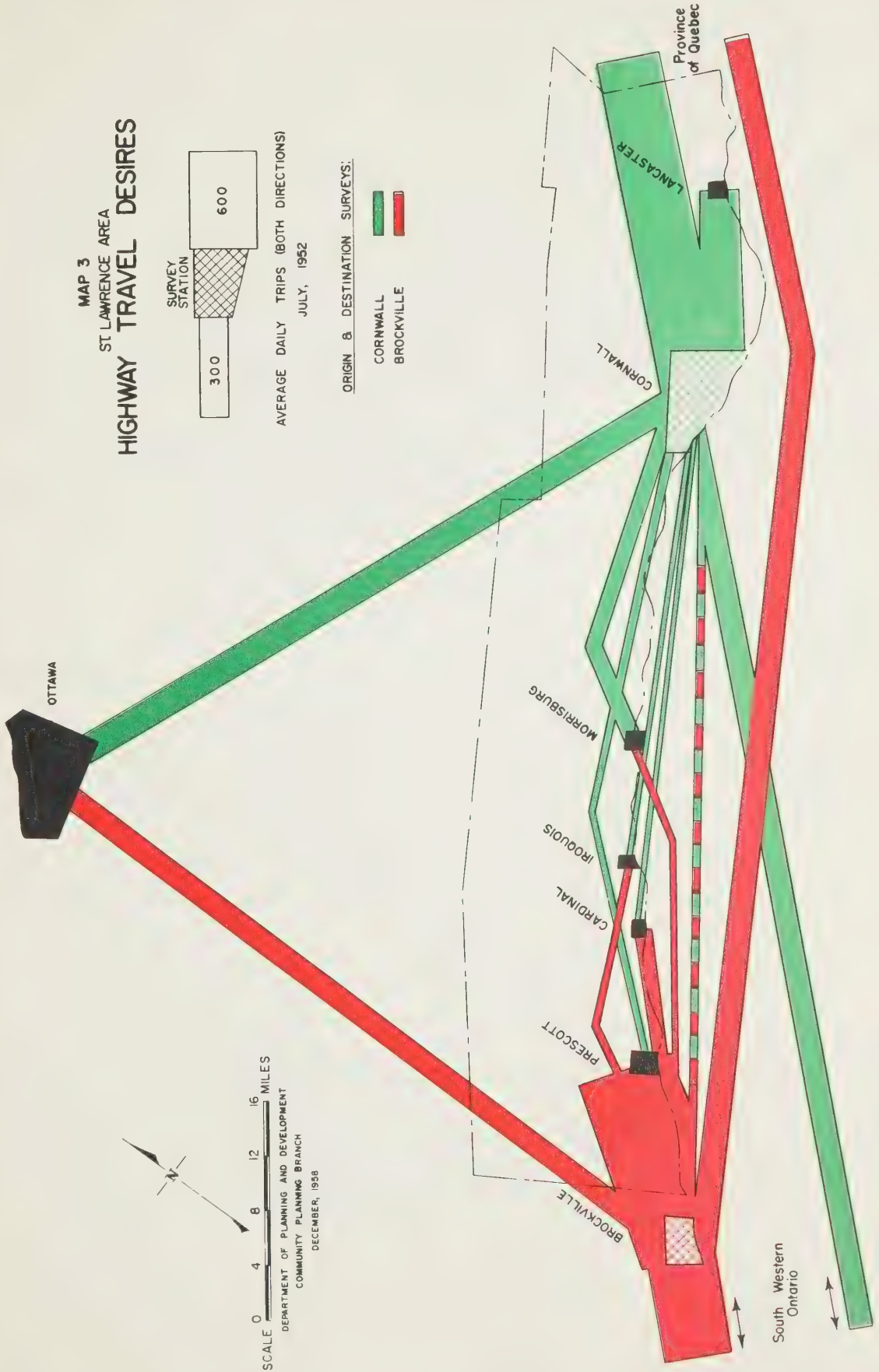
# MAP 3 ST LAWRENCE AREA HIGHWAY TRAVEL DESIRES



AVERAGE DAILY TRIPS (BOTH DIRECTIONS)  
JULY, 1952

ORIGIN & DESTINATION SURVEYS:

CORNWALL  
BROCKVILLE



SCALE 0 4 8 12 16 MILES  
DEPARTMENT OF PLANNING AND DEVELOPMENT  
COMMUNITY PLANNING BRANCH  
DECEMBER, 1958

South Western  
Ontario





will be closed at this Freeway after public hearings have been held and it is found that there is no real need that these roads remain open upon completion of Highway 401. In some cases where closings are made, service roads will be constructed or existing municipal roads will be adapted to provide connections between the closed roads and the nearest interchange, under pass or overpass. Map shows the location and the interchanges that exist, are under construction, or planned for King's Highway No. 401. The Department of Highways intends to complete the four-lanes of pavement and necessary structures for Highway Number 401 by the end of 1963 throughout the Province.

Once Highway No. 401 is completed it is expected that the through traffic on Highway Number 16 will increase substantially. It is reasoned that motorists proceeding to Ottawa from Toronto and other major Southern Ontario Centres which at present use three alternative routes (Highways 7 and 15, 2 and 15 and 2 and 16) will in the future choose to make maximum use of Highway Number 401, due to savings in travel time and operating costs in comparison to Highways 15 or 7, and thence proceed northerly to Ottawa via Highway Number 16. The consolidation of long-distance through trips on the Johnstown to Ottawa route will in this event likely warrant future reconstruction along Highway Number 16 possibly in five to ten years time.

### Bridges

At the present time only one bridge spans the St. Lawrence River in the Province of Ontario. This is the Ivy Lea, a high level bridge located between Kingston and Brockville. Two new international bridges however, are under construction at Port Johnstown and Cornwall and at present ferry service is provided between Prescott and Ogdensburg, and Cornwall and Massena. The former Roosevelt



*Courtesy—Ontario Department of Travel and Publicity*

Photo 8. The former Roosevelt Bridge between Cornwall and Massena, N.Y. This structure was a one-lane swing bridge combining railway and highway traffic.



*Courtesy—Ontario Department of Travel and Publicity*

Photo 9. New bridges similar to the Ivy Lea Bridge shown above are under construction at Johnstown and Cornwall permitting the free passage of Seaway vessels and automobiles.

Bridge, which in the past carried both motor vehicle and railway cars, is to be replaced by a new high-level structure, called the Cornwall-Massena International Bridge. This bridge, will enter the City of Cornwall on Brookdale Ave. reaching grade about 200 feet north of seventh Street.

A new bridge is being built between Highway 16 near Prescott and the State of New York, east of Ogdensburg. Construction commenced on July 1, 1957 and it is scheduled for completion in early 1960. The new bridge, to be managed by the Ogdensburg Bridge Authority, will complement the railway freight car ferry.

The deck of the new control dam at Iroquois is not intended to carry motor vehicle traffic upon its completion. However during construction provision was made for extension of the piers of the dam as a foundation for a bridge if one is considered. This would simplify underwater construction appreciably in the event that a bridge were to be constructed at this location in the future.

In the year 1957 the Roosevelt Bridge at Cornwall carried a total of approximately 260,889 motor vehicles or an average of 1400 per day, (10). In the same year 91,508 motor vehicles used the Prescott-Ogdensburg ferry service or an average of 500 per day. It is estimated by the Ogdensburg Bridge Authority that the new bridge between Ogdensburg and Port Johnstown initially will carry at least 750 cars daily.

#### D. AIRPORT FACILITIES

At the present time there is no airport in the St. Lawrence Area that provides scheduled commercial flights. Ottawa and Montreal are the nearest airports that have Trans-Canada Air Lines Services. Municipal airports are found at Massena and Ogdensburg in New York State, and a landing strip is now under construction at Brockville. Two private operators - Cornwall Air Services and Omega Air Service - are now attempting to meet operational requirements for non-scheduled bases at Cornwall. They propose to operate only small aircraft.

The Massena Airport has recently extended its runway from 4000 to 5000 feet and is capable of receiving and dispatching medium to large aircraft. At the present time little Canadian air trade is handled at Massena. However since this airport is capable of accommodating appreciably more traffic, an increase in Canadian traffic would be encouraged by the airport authority if such were to occur in the future.

The Ogdensburg Airport has at present a 3800-foot paved runway that is capable of extension to 4400 feet without difficulty. Charter service is available for destinations anywhere in Canada or the United States. Regular scheduled flights from Ogdensburg to principal United States cities by means of interconnection at Utica or Syracuse attract on the average about seven to ten Canadian passengers daily.

The Brockville airport, located approximately 5 miles north of the Town, will have a 3000-foot landing strip. An area of about 2 square miles is designated for "restricted land use" on a recently proposed amendment to the Official Plan for the Brockville and Elizabethtown Planning Area, presumably for the protection of fringing land uses and the aircraft operations. Initially, light aircraft only will



use the airfield for training and pleasure flights. No chartered or regular flight services are planned as yet. The new airfield at Brockville will change air travel habits in this vicinity. The type of change that occurs will of course depend on the extent of air services provided at Brockville in comparison to Ogdensburg.

#### Airport Plans

In 1957 the Federal Department of Transport made a preliminary investigation of possible airport sites in the vicinity of Cornwall. This investigation was primarily directed at the feasibility of physical location of an airport here and did not deal with the matter of air service needs of this area. The tentative findings of this survey would indicate that no serious physical complications were evident in the location of an airport within a reasonable air service distance from the City of Cornwall. No other airport surveys within the St. Lawrence Area were known at the time of the collection of information for this transportation study.

If an airport were to be constructed at Cornwall, scheduled services might, for example, be part of a route such as Toronto - Kingston - Cornwall - Montreal and non-scheduled services might consist of some small local charter and air school training services plus a moderate number of flights by other aircraft.

It is generally believed that an airport does not attract any significant amount of traffic outside of an area having approximately a 25-mile radius. On this basis, an airport at Cornwall, for example, would serve only the easterly portion of the Area including Morrisburg and possibly Iroquois.



## LIST OF SOURCE MATERIAL

- (1) Canal Traffic Reports, Dominion Bureau of Statistics.
- (2) Estimates by J.L. Hazard, Consultant, St. Lawrence Seaway Development Corporation, June, 1957.
- (3) Address by L. Chevrier, President, St. Lawrence Seaway Authority, June, 1955 (Cornwall).
- (4) Shipping Reports, Section III, Dominion Bureau of Statistics
- (5) "Cornwall, Ontario and the Proposed St. Lawrence Deep Waterways Project, Development Division, Canadian National Railways, 1953.
- (6) "Preliminary Report, Cornwall Harbour", Canadian British Associates Engineering Limited, March, 1957.
- (7) Motor Vehicles Branch Reports, Ontario Department of Highways.
- (8) "Ontario Future Passenger Car and Commercial Vehicle Travel", Planning Division, Ontario Department of Highways, 1957.
- (9) Traffic Surveys, Planning Division, Ontario Department of Highways, 1957.
- (10) Travel Between Canada and the United States Reports, Dominion Bureau of Statistics.
- (11) Federal Department of Transport.





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